Agence spatiale canadienne | Canadian Space Agency

Canada

Earth Observation Express

Other Editions

September 8, 2010 – no 45

1. Arctic Sovereignty, Ecosystem and Resources: PM Announces Support for the Canadian Next Generation RADARSAT Satellites

Prime Minister Stephen Harper announced support for the next phase of the RADARSAT Constellation Mission, a system of three advanced remote sensing satellites. The RADARSAT Constellation is a fleet of three state-of-the-art remote-sensing satellites, the successors of the RADARSAT-1 and RADARSAT-2 satellites. They will extend the 15-year archive of RADARSAT images, a rich source of geophysical information of Canada and the world. These images are a critical resource of information documenting environmental changes and human habitation and are of key interest to government and university researchers, scientists, and policy makers. Images supplied by the Constellation will also support the sustainable management, development and use of natural resources, enhance weather monitoring, support the enforcement of fisheries and environmental regulations, secure the safety of navigation in our coastal waters and provide support for disaster management, humanitarian and relief efforts. On August 25, For more information, please visit: http://www.pm.gc.ca/eng/media.asp?category=1&pageId=26&id=3601.

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2. International Assistance: Canada's response to the floods in Pakistan with RADARSAT-2

Heavy monsoon rains, which began on July 21, 2010, affected many regions of Pakistan causing significant flooding and landslides. More than 1,500 people have lost their lives, 4 million are homeless and more than 17 million people have been affected by the floods. Extensive damage to infrastructure and transportation routes has been reported and may hamper the provision of essential services. The Government of Canada will provide up to $33 million to respond to the most urgent needs of flood-affected populations in Pakistan. Canada is monitoring the situation very closely and working with local authorities. RADARSAT-2 images of affected regions were acquired. To view example of flood products derived from RADARSAT imagery to better manage the event, please visit: http://www.asc-csa.gc.ca/eng/satellites/radarsat2/featured_image.asp, http://www.disasterscharter.org/web/charter/

activation_details?p_r_p_1415474252_assetId=ACT-319 and http://sertit.u-strasbg.fr/SITE_RMS/2010/14_rms_pakistan_2010/14_rms_pakistan_2010.html.

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3. Canadian Earth Observation Technology: SMOS satellite Used For Tracking The Pakistan Floods

The SMOS (Soil Moisture and Ocean Salinity) satellite, which was launched on 2 November 2009, has been used for monitoring the heavy monsoon rains which hit Pakistan at the end of July. The unique instrument on board of SMOS (an 8m-wide interferometric radiometer) has studied the water content in the soils of the affected area. The acquired data has been processed to make a series of maps showing how the Earth became saturated as a result of the rains. Radar data, in particular, is used to identify the presence and extent of floodwater in cases of floods. In the case of the Pakistan floods, the SMOS team has been particularly encouraged to have got good results out of a mountainous area, a type of terrain from which it is difficult to retrieve soil moisture values from space. Canada is a cooperating member of ESA and contributed to the development of SMOS. Array Systems Computing Inc. (Toronto, Canada) in collaboration with the Expert Support Labs (ESL), ESA and CSA, has successfully developed the SMOS Level 2 Soil Moisture processor. To learn more and to view SMOS soil moisture products of Pakistan, please visit the BBC web site: http://www.bbc.co.uk/news/science-environment-10991541. To learn more about the Canadian Space Agency Government Related Initiatives Program (GRIP) SMOS activities, visit: www.asc-csa.gc.ca/eng/programs/grip/archive_091130.asp.

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4. Arctic Monitoring: Greenland Glacier Gives Birth to Giant Iceberg

Envisat has been observing a rare event in the Arctic since early August - a giant iceberg breaking off the Petermann glacier in North-West Greenland. The Petermann glacier is one of the largest glaciers connecting the Greenland inland ice sheet with the Arctic Ocean. Upon reaching the sea, a number of these large outlet glaciers extend into the water with a floating 'ice tongue'. An animation was created by combining three Envisat Advanced Synthetic Aperture Radar (ASAR) acquisitions (31 July, 4 August and 7 August 2010) taken over the same area. The breaking of the glacier tongue and the movement of the iceberg can be clearly seen in this sequence. The Canadian Space Agency (CSA) contributed to the development of Envisat. To view the animation, please visit: http://www.esa.int/images/Petermann.gif.

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5. Earth's Climate and Ice Thickness: Scientists Receive First CryoSat-2 Data

A better understanding of how Earth's ice fields are changing has come another step closer as the first data from the new CryoSat-2 ice mission are released to selected scientists around the world for fine-tuning. This release, which comes just three months after CryoSat-2 was launched, is the first milestone in the

scientific exploitation of the mission's data. These data are essential for determining tiny variations in the thickness of ice floating in the polar oceans and in the large ice sheets that blanket the Arctic and Antarctica. Around 150 scientists from about 40 research institutes now have access to the data. As part of the calibration and validation procedure, it is their job to help ensure these measurements meet the mission's exacting standards before the data are released to the wider scientific community later this year. For more information, please visit: http://www.esa.int/esaEO/SEM213WNPBG_index_0.html. To learn more on the Canadian participation to CryoSat-2, please visit the GRIP web page: http://www.asc-csa.gc.ca/eng/programs/grip/archive_100407.asp.

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6. 3rd RADARSAT-2 Workshop: On-line Registration Now Available

The third RADARSAT-2 Workshop, will take place at the Canadian Space Agency, St-Hubert, Quebec, Sept 27 - Oct 1 2010. The main objective of the Workshop is to inform all potential users of the utilizations of RADARSAT-2 data from an operational, commercial and R&D perspectives. The on-line registration and the final program are available on the webpage: http://www.asc-csa.gc.ca/eng/events/2010/radarsat2.asp. Seats are limited, please register now if you want to attend. For more information, please contact Daniel De Lisle (SymposiumRadarsat2@asc-csa.gc.ca).

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7. Latest findings on Earth's environment using Earth Observation satellites: Revisit the Living Planet Symposium

Nearly 1200 scientific researchers and operational users attended ESA's Living Planet Symposium in Bergen, Norway, from 28 June – 2 July 2010, to present their latest findings on Earth's environment and climate using data from Earth Observation satellites. Selected highlights from the symposium were streamed live on the web and are now available for replay (i.e. Data policies, GMES session, Sentinels session, oil spills session, etc.): http://www.esa.int/esaEO/SEMOJBPZVAG_index_0.html.

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8. Air Quality: Russian Forest Fires Smoke Plumes Tracked With Canadian Earth Observation Technology

Central Russia and the Moscow region experienced their hottest July in history, with record temperatures reaching over 35ºC posing a high fire risk. Several large smoke plumes originating from burning peat fields and forest fires are visible in this Envisat image covering the area east of Moscow. The smoke plumes stretched over several hundred kilometres and, combined with the normal air pollution in the city, caused pollution levels ten times the normal levels for the capital. The Canadian Space Agency (CSA) contributed to the development of Envisat. During the development of Envisat, ABB Bomem of Quebec City (Quebec, Canada), developed software to allow the selection and generation of the MERIS instrument products. To view the MERIS image

acquired on July 29 2010 at a resolution of 300 meters, please visit: http://esamultimedia.esa.int/images/EarthObservation/images_of_the_week/forest_fires_MoscowMER_FR_20100729_43977.jpg.

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9. Contributing to Global Security: South China benefits From Canadian Earth Observation technology During Floods

A severe flood affected Southern China on July 19. More than 52.000 people and 72 counties have been affected by the heavy rains in Jiunjian and more than 40 000 people were relocated. RADARSAT images of affected regions were acquired before and after the event to better manage the event. The products were sent to the China National Committee for Disaster Reduction. To learn more or to view the products, please visit: http://www.disasterscharter.org/web/charter/activation_details?p_r_p_1415474252_assetId=ACT-318 and http://www.disasterscharter.org/web/charter/

Date Modified: 2010-09-08